

1. A fastener installation tool for installing a threaded nut with a non-circular external surface onto a threaded fastener of the type having a non-circular recess in an end of the fastener that matingly engages with a male member that has a complementary shaped non-circular tip end to the non-circular recess, the fastener installation tool comprising:

a head;

a rotatably operable gear disposed within the head, the gear having a non-circular bore;

a socket, the socket having a non-circular seat configured to matingly engage the non-circular nut that has a complementary shaped non-circular external shape to the non-circular seat;

the socket having a shaft with a non-circular external surface and a tubular bore internal surface, the shaft matingly engaged within the bore of the gear having a complementary shaped non-circular shape to the non-circular external surface of the shaft;

a key, the key having a shank with a non-circular external surface and a tip end with a non-circular external surface, the shank of the key being disposed within the tubular bore of the shaft;

the tip end being configured to matingly engage with a complementary shaped non-circular recess in the fastener of the type having the non-circular recess in the end of the fastener;

a key holder having a non-circular aperture that matingly engages the shank of the key having a complementary shaped non-circular shape to the non-circular aperture, the key holder being attached to the exterior surface of the head; and

a spring having one end of the spring attached to the key and another end of the spring attached to the head.

2. The fastener installation tool of claim 1 further comprising a tool component attached to the head.

3. The fastener installation tool of claim 1 wherein the exterior surface of the shaft has an annular groove disposed around the circumference of the shaft.

4. The fastener installation tool of claim 3 further comprising a ring seated within the annular groove which locks the socket to the gear.

5. The fastener installation tool of claim 1 wherein the key has a bore located adjacent to an end of the key opposite to the tip end.

6. The fastener installation tool of claim 5 wherein the one end of the spring is disposed within the bore and the other end of the spring is attached to the head with a fastener.

7. The fastener installation tool of claim 1 wherein the key has a slotted groove disposed in an end of the key opposite to the tip end.

8. The fastener installation tool of claim 7 wherein the one end of the spring is disposed within the slotted groove and the other end of the spring is attached to the head with a fastener.

9. The fastener installation tool of claim 1 wherein the shank of the key with the non-circular external surface that is matingly engaged with the non-circular aperture of the key holder both have non-circular shapes selected from the group consisting of one or more flats, flutes and splines.

10. The fastener installation tool of claim 1 wherein the spring operates to bias the key along a longitudinal axis of the shaft of the socket and retain the key to the fastener installation tool.

11. The fastener installation tool of claim 1 wherein the tip end with the non-circular external surface that is configured to matingly engage with the non-circular recess of the fastener both have non-circular shapes selected from the group consisting of one or more flats, flutes and splines.

12. A kit for retrofitting a fastener installation tool that is used to install a threaded nut with a non-circular external surface onto a threaded fastener of the type having a non-circular recess in an end of the fastener that matingly engages with a male member that has a complementary shaped non-circular tip end to the non-circular recess, the fastener installation tool comprising:

a head;

a rotatably operable gear disposed within the head, the gear having a non-circular bore;

a socket, the socket having a non-circular seat configured to matingly engage the non-circular nut that has a complementary shaped non-circular external shape to the non-circular seat; and

the socket having a shaft with a non-circular external surface and a tubular bore internal surface, the shaft matingly engaged within the bore of the gear having a complementary shaped non-circular shape to the non-circular external surface of the shaft;

the kit, comprising:

a key, the key having a shank with a non-circular external surface and a tip end with a non-circular external surface, the shank of the key being configured to be disposed within the tubular bore of the shaft;

the tip end being configured to matingly engage with a complementary shaped non-circular recess in the fastener of the type having the non-circular recess in the end of the fastener;

a key holder having a non-circular aperture that is configured to matingly engage the shank of the key having a complementary shaped non-circular shape to the non-circular aperture, the key holder being configured to be attached to the exterior surface of the head; and

a spring having one end of the spring configured to be affixed to the key and another end of the spring configured to be attached to the head.

13. A fastener installation tool for installing a threaded nut with a non-circular external surface onto a threaded fastener of the type having a non-circular recess in an end of the fastener that matingly engages with a male member that has a complementary shaped non-circular tip end to the non-circular recess, the fastener installation tool comprising:

a head;

a rotatably operable gear disposed within the head, the gear having a non-circular bore;

a socket, the socket having a non-circular seat configured to matingly engage the non-circular nut that has a complementary shaped non-circular external shape to the non-circular seat;

the socket having a shaft with a non-circular external surface and a tubular bore internal surface, the shaft matingly engaged within the bore

of the gear having a complementary shaped non-circular shape to the non-circular external surface of the shaft;

a key, the key having a shank with a non-circular external surface and a tip end with a non-circular external surface, the shank of the key being disposed within the tubular bore of the shaft;

the tip end being configured to matingly engage with a complementary shaped non-circular recess in the fastener of the type having the non-circular recess in the end of the fastener;

a key holder having a non-circular aperture that matingly engages the shank of the key having a complementary shaped non-circular shape to the non-circular aperture, the key holder being attached to the exterior surface of the head;

a spring having one end of the spring attached to the key and another end of the spring attached to the head; and

a tool component attached to the head for rotatably operating the gear.

14. The fastener installation tool of claim 13 wherein the exterior surface of the shaft has an annular groove disposed around the circumference of the shaft.

15. The fastener installation tool of claim 14 further comprising a ring seated within the annular groove which locks the socket to the gear.